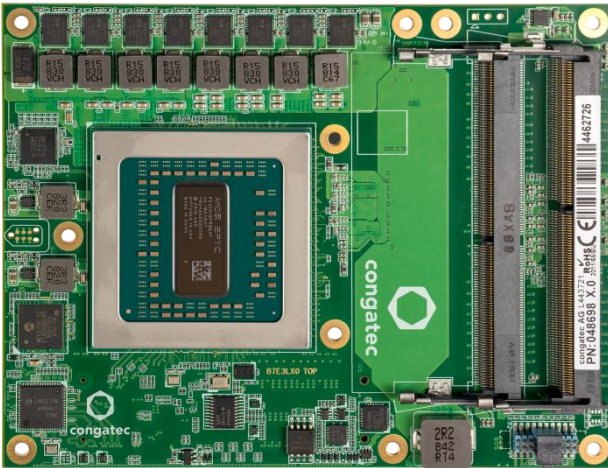


SERVER-CLASS EMBEDDED PERFORMANCE

conga-B7E3



- COM Express Type 7
- AMD EPYC™ Embedded 3000 Series up to 16 Cores, 32MB Cache and 30..100W TDP
- 4x 10 Gigabit Ethernet KR Interface
- Up to 32 PCI Express generation 3 lanes
- Industrial grade variant
- Optional Onboard NVMe SSD up to 1 TB capacity

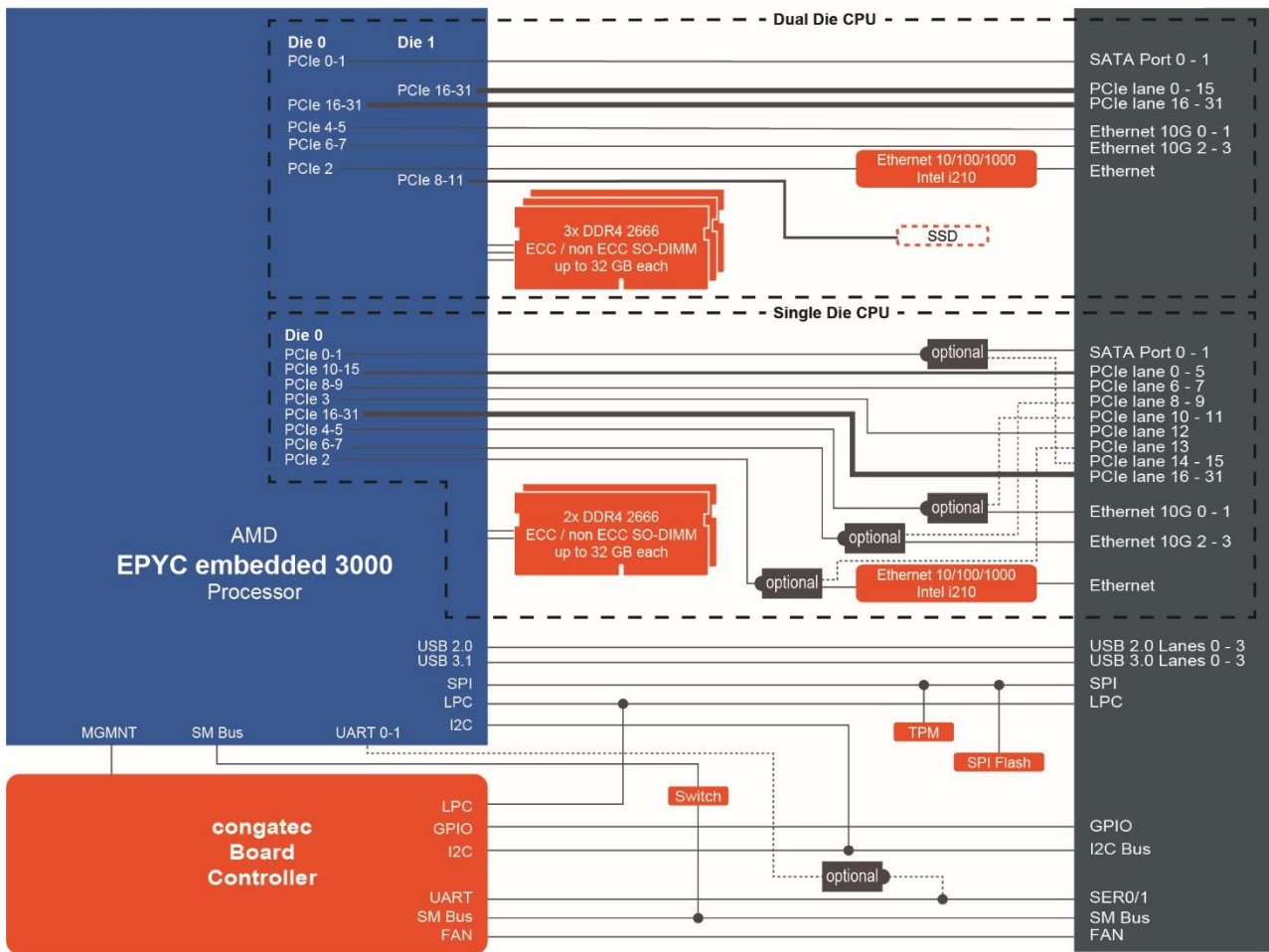


| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|--|------------|------------------------------------|-------------|--|--|-----------------------------------|-----------------------|----------|---------------|-------------|----------|-----------------------------------|-----------------------|----------|---------------|-------------|---------|-----------------------------------|----------------------|------------|---------------|-------------|---------|-----------------------------------|---------------------|------------|---------------|-------------|---------|-----------------------------------|---------------------|------------|---------------|-------------|---------|-----------------------------------|---------------------|------------|---------------|------------|---------|-----------------------------------|----------------------|------------|----------------|-------------|---------|
| Formfactor | COM Express® Rev. 3.0, Basic Formfactor (95 x 125 mm), Type 7 Connector Pinout | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CPU | <p>Commercial Versions</p> <table border="1"> <tr> <td>AMD EPYC Embedded 3000 Model 3451</td> <td>16 Cores / 32 Threads</td> <td>Dual Die</td> <td>2.1 / 3.0 GHz</td> <td>32 MB cache</td> <td>100W TDP</td> </tr> <tr> <td>AMD EPYC Embedded 3000 Model 3351</td> <td>12 Cores / 24 Threads</td> <td>Dual Die</td> <td>1.9 / 3.0 GHz</td> <td>32 MB cache</td> <td>80W TDP</td> </tr> <tr> <td>AMD EPYC Embedded 3000 Model 3251</td> <td>8 Cores / 16 Threads</td> <td>Single Die</td> <td>2.5 / 3.1 GHz</td> <td>16 MB cache</td> <td>55W TDP</td> </tr> <tr> <td>AMD EPYC Embedded 3000 Model 3201</td> <td>8 Cores / 8 Threads</td> <td>Single Die</td> <td>1.5 / 3.1 GHz</td> <td>16 MB cache</td> <td>30W TDP</td> </tr> <tr> <td>AMD EPYC Embedded 3000 Model 3151</td> <td>4 Cores / 8 Threads</td> <td>Single Die</td> <td>2.7 / 2.9 GHz</td> <td>16 MB cache</td> <td>45W TDP</td> </tr> <tr> <td>AMD EPYC Embedded 3000 Model 3101</td> <td>4 Cores / 4 Threads</td> <td>Single Die</td> <td>2.1 / 2.9 GHz</td> <td>8 MB cache</td> <td>35W TDP</td> </tr> </table> <p>Industrial Versions</p> <table border="1"> <tr> <td>AMD EPYC Embedded 3000 Model 3255</td> <td>8 Cores / 16 Threads</td> <td>Single Die</td> <td>2.5 / 3.10 GHz</td> <td>32 MB cache</td> <td>55W TDP</td> </tr> </table> | | | | | | AMD EPYC Embedded 3000 Model 3451 | 16 Cores / 32 Threads | Dual Die | 2.1 / 3.0 GHz | 32 MB cache | 100W TDP | AMD EPYC Embedded 3000 Model 3351 | 12 Cores / 24 Threads | Dual Die | 1.9 / 3.0 GHz | 32 MB cache | 80W TDP | AMD EPYC Embedded 3000 Model 3251 | 8 Cores / 16 Threads | Single Die | 2.5 / 3.1 GHz | 16 MB cache | 55W TDP | AMD EPYC Embedded 3000 Model 3201 | 8 Cores / 8 Threads | Single Die | 1.5 / 3.1 GHz | 16 MB cache | 30W TDP | AMD EPYC Embedded 3000 Model 3151 | 4 Cores / 8 Threads | Single Die | 2.7 / 2.9 GHz | 16 MB cache | 45W TDP | AMD EPYC Embedded 3000 Model 3101 | 4 Cores / 4 Threads | Single Die | 2.1 / 2.9 GHz | 8 MB cache | 35W TDP | AMD EPYC Embedded 3000 Model 3255 | 8 Cores / 16 Threads | Single Die | 2.5 / 3.10 GHz | 32 MB cache | 55W TDP |
| AMD EPYC Embedded 3000 Model 3451 | 16 Cores / 32 Threads | Dual Die | 2.1 / 3.0 GHz | 32 MB cache | 100W TDP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AMD EPYC Embedded 3000 Model 3351 | 12 Cores / 24 Threads | Dual Die | 1.9 / 3.0 GHz | 32 MB cache | 80W TDP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AMD EPYC Embedded 3000 Model 3251 | 8 Cores / 16 Threads | Single Die | 2.5 / 3.1 GHz | 16 MB cache | 55W TDP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AMD EPYC Embedded 3000 Model 3201 | 8 Cores / 8 Threads | Single Die | 1.5 / 3.1 GHz | 16 MB cache | 30W TDP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AMD EPYC Embedded 3000 Model 3151 | 4 Cores / 8 Threads | Single Die | 2.7 / 2.9 GHz | 16 MB cache | 45W TDP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AMD EPYC Embedded 3000 Model 3101 | 4 Cores / 4 Threads | Single Die | 2.1 / 2.9 GHz | 8 MB cache | 35W TDP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AMD EPYC Embedded 3000 Model 3255 | 8 Cores / 16 Threads | Single Die | 2.5 / 3.10 GHz | 32 MB cache | 55W TDP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DRAM | Up to 3 SO-DIMM sockets for DDR4 memory modules up to 32 GByte each (96 GByte total) with 2666 MT/s ECC and non-ECC supported | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Chipset | Integrated in SoC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ethernet | 4x 10GbE with KR interface support 1x Gigabit Ethernet | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I/O Interfaces | 32x PCI Express™ Gen 3.0 lanes max. 4x USB 3.1 Gen 1 4x USB 2.0 2x SATA III (6Gb/s) LPC SPI 2x UART SMBus | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Storage | Up to 1TByte onboard NVMe storage | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| congatec Board Controller | Multi Stage Watchdog non-volatile User Data Storage Manufacturing and Board Information Board Statistics I ² C bus (fast mode, 400 kHz, multi-master) Power Loss Control Hardware Health Monitoring POST Code redirection | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Embedded BIOS Features | OEM Customization Flash Update based on AMI Aptio UEFI | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Security | Trusted Platform Module (TPM 2.0), Secure Root of Trust, Secure Memory Encryption, Secure Encrypted Virtualization | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Power Management | ACPI 5.0 with battery support Operating Systems | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operating Systems | Windows 10 (64 Bit) Windows Server 2016 (64 Bit) Linux (Ubuntu 18.04, Ubuntu 19.04, Fedora 30) 64 Bit | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Power Consumption | See user's guide for full details | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Temperature | Industrial: Operating: -40 to +85°C | | Storage: -40 to +85°C | | Commercial: Operating: 0 to +60°C Storage: -40 to +85°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Extended Temperature | Screening service on request: | | -25 to +80°C (burn-in & cold-soak) | | -40 to +85°C (burn-in & cold-soak) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Humidity | Operating: 10 - 90% r. H. non cond. | | Storage: 5 - 95% r. H. non cond. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Size | 95 x 125 mm (3.74" x 4.92") | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

conga-B7E3 | Block diagram

conga-B7E3

COM Express Rev. 3.0, Basic Size, Type 7 Pinout



conga-B7E3 | Order Information – COM Express® Module

| Article | PN | Description |
|-------------------|--------|---|
| conga-B7E3/3451 | 048600 | COM Express Type 7 Basic module based on AMD embedded EPYC 3451 16-core processor (dual die) with 2.15GHz up to 3.0 GHz turbo boost, 32MB L3 cache and quad channel DDR4 2666 MT/s memory interface (formerly Snowy Owl). |
| conga-B7E3/3351 | 048602 | COM Express Type 7 Basic module based on AMD embedded EPYC 3351 12-core processor (dual die) with 1.9GHz up to 3.0 GHz turbo boost, 32MB L3 cache and quad channel DDR4 2666 MT/s memory interface (formerly Snowy Owl). |
| conga-B7E3/i-3255 | 048604 | COM Express Type 7 Basic module based on AMD embedded EPYC 3255 8-core processor (single die) with 2.5GHz up to 3.1 GHz turbo boost, 16MB L3 cache and dual channel DDR4 2666 MT/s memory interface (formerly Snowy Owl). |
| conga-B7E3/3251 | 048605 | COM Express Type 7 Basic module based on AMD embedded EPYC 3251 8-core processor (single die) with 2.5GHz up to 3.1 GHz turbo boost, 16MB L3 cache and dual channel DDR4 2666 MT/s memory interface (formerly Snowy Owl). |
| conga-B7E3/3201 | 048606 | COM Express Type 7 Basic module based on AMD embedded EPYC 3201 8-core processor (single die) with 1.5GHz up to 3.1 GHz turbo boost, 16MB L3 cache and dual channel DDR4 2133 MT/s memory interface (formerly Snowy Owl). |
| conga-B7E3/3151 | 048607 | COM Express Type 7 Basic module based on AMD embedded EPYC 3151 4-core processor (single die) with 2.7GHz up to 2.9 GHz turbo boost, 16MB L3 cache and dual channel DDR4 2666 MT/s memory interface (formerly Snowy Owl). |
| conga-B7E3/3101 | 048608 | COM Express Type 7 Basic module based on AMD embedded EPYC 3101 4-core processor (single die) with 2.1GHz up to 2.9 GHz turbo boost, 8MB L3 cache and dual channel DDR4 2666 MT/s memory interface (formerly Snowy Owl). |